# FACT SHEET

BMDO FACT SHEET 405-00-01 Replaces Fact Sheet 405-99-01

# THE BALLISTIC MISSILE DEFENSE PROGRAM AND ENVIRONMENTAL PROTECTION

## INTRODUCTION

Within the Department of Defense (DoD), the Ballistic missile Defense Organization (BMDO) is responsible for managing, directing, and executing the acquisition of joint missile defense systems. The Director of BMDO is the Acquisition Executive authority for assigned missile defense systems. The BMDO acquisition mission has three dimensions:

- Develop and deploy missile defenses to the war fighter, to protect deployed forces and our homeland;
- Ensure interoperability of those systems among our own forces and those of our allies
- Maintain an advanced and effective missile defense technology base.

These three dimensions are accomplished through BMDO's Major Defense Acquisition Programs (MDAPS) and missile defense Technology programs. Environmental, Safety, and Occupational Health (ESOH) requirements crosscut these programs creating a need for ESOH technical support throughout the systems' lifecycle. The overall responsibility for BMDO ESOH integration and planning lies with the BMDO Director, his Program Managers (PMs), and his ESOH support team.

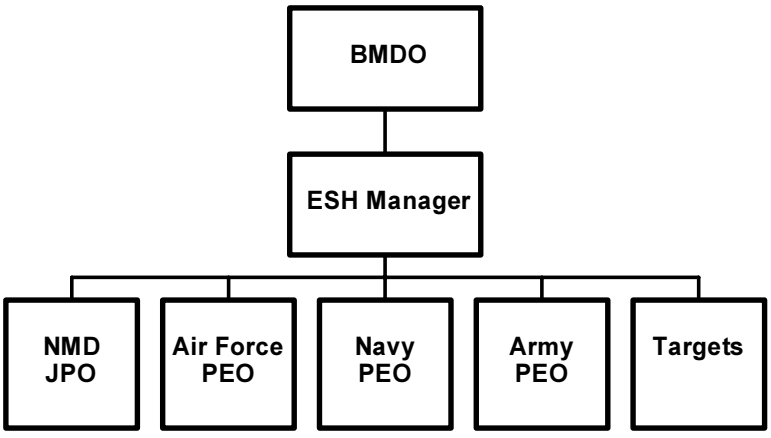
## PROGRAM AREAS

It is within this mission context that BMDO managers employ three methods for complying with the ESOH requirements that are applicable to their programs. These methods include 1.) identifying specific environmental, safety and health requirements related to their programs, 2.) conduct research and documenting environmental plans and, 3.) execute the ESOH plans including any mitigation of impacts that may be needed.

The BMDO ESOH Manager is domiciled within the BMDO Director for Test Simulation and Evaluation (TE). The ESOH manager provides policy, budget and programming guidance, oversight management, coordination, technical support, and ESOH resources management. Major ESOH efforts are funded directly by the acquisition program offices. However, limited resources for BMDO ESOH management are provided to the MDAP ESOH Functional points of contact (POCs), ESOH Service Providers, and DoD installation ESOH POCs.

The BMDO ESOH Manager chairs the ESOH Integrated Product Team (IPT) which identifies, plans, tracks and integrates ESOH requirements across all functional lines

**BMDO ESOH Management Organization and Its Executing Agents**



## PROGRAM AREAS [CONTINUED]

in BMDO programs. The IPT fosters technical interchange, supports program risk reduction, enables ESOH updates and is a forum for keeping communication channels open.

DoD Directive 5000.1 and DoD Regulation 5000.2-R establish the requirement to consider environmental, safety and health impacts and costs in BMDO program decision making. To lead and direct this ESOH integration effort, strategic planning related to Vision, Mission, Guiding Principles, program structure, and integrative processes are in place.

## ENVIRONMENTAL HEALTH AND OCCUPATIONAL SAFETY

***The BMDO Environmental Safety and Occupational Health Mission:*** Operating within the context of BMDO's missile system defense acquisition mission, the BMDO ESOH mission is: "To be environmentally responsible, ethical and good stewards of the human and natural environment."

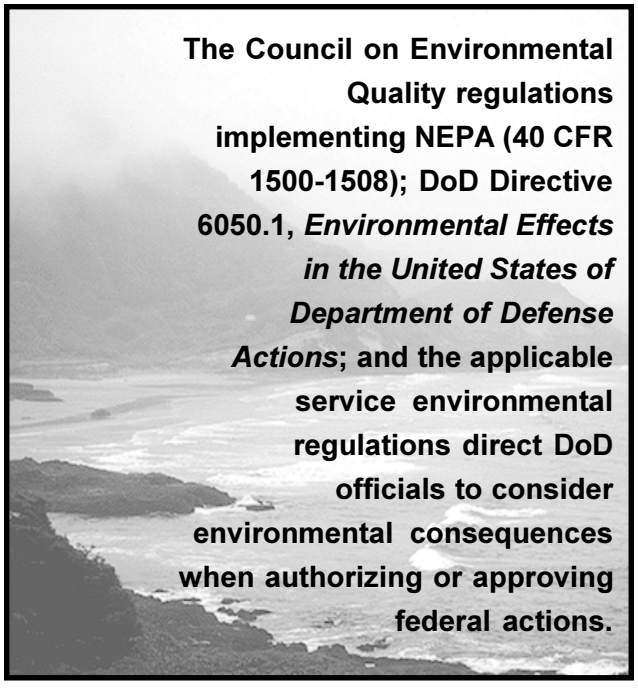
To this end, BMDO Directive 6050 provides additional guidance, and identifies responsibilities for the execution of ESOH programs related to facilities siting and environmental, safety and health requirements.BMDO's guiding principles for program management and integration to the missile system acquisition processes are listed below:

- Systematically integrate ESOH considerations into the missile systems acquisition life-cycle; to reduce overall risk and costs while enhancing the human environment and systems' performance;

- Comply with all applicable laws and regulations for the protection of our personnel and the communities in which we operate;

- Utilize green technologies and efficiently use material and energy throughout the life-cycle of Missile Defense systems;

- Protect cultural and natural resources to ensure sustained access to land, air, sea, and testing facilities;




- Integrate pollution prevention into our system acquisition culture as the preferred means of meeting existing or emerging environmental requirements.

## ESOH FUNCTIONAL ORGANIZATION

BMDO has established a comprehensive ESOH management structure to systematically manage, assist and support each acquisition program. Because of diverse program activities, different executing agents and the various research, development and test range geographic locations, BMDO has to be creative. Our ESOH management process involves strategic planning, implementation planning, execution, performance evaluation and continual improvement through re-engineering, when appropriate.

Our ESOH organization employs existing resources within the Military Services; contractors, and industry who are already involved in the BMDO mission to leverage their special expertise and years of valuable experience. The BMDO ESOH integration management structure is identified in Figure 2. Environmental Safety and Health planning and program documentation work, is often divided and accomplished by the organizational elements listed in this relational chart.

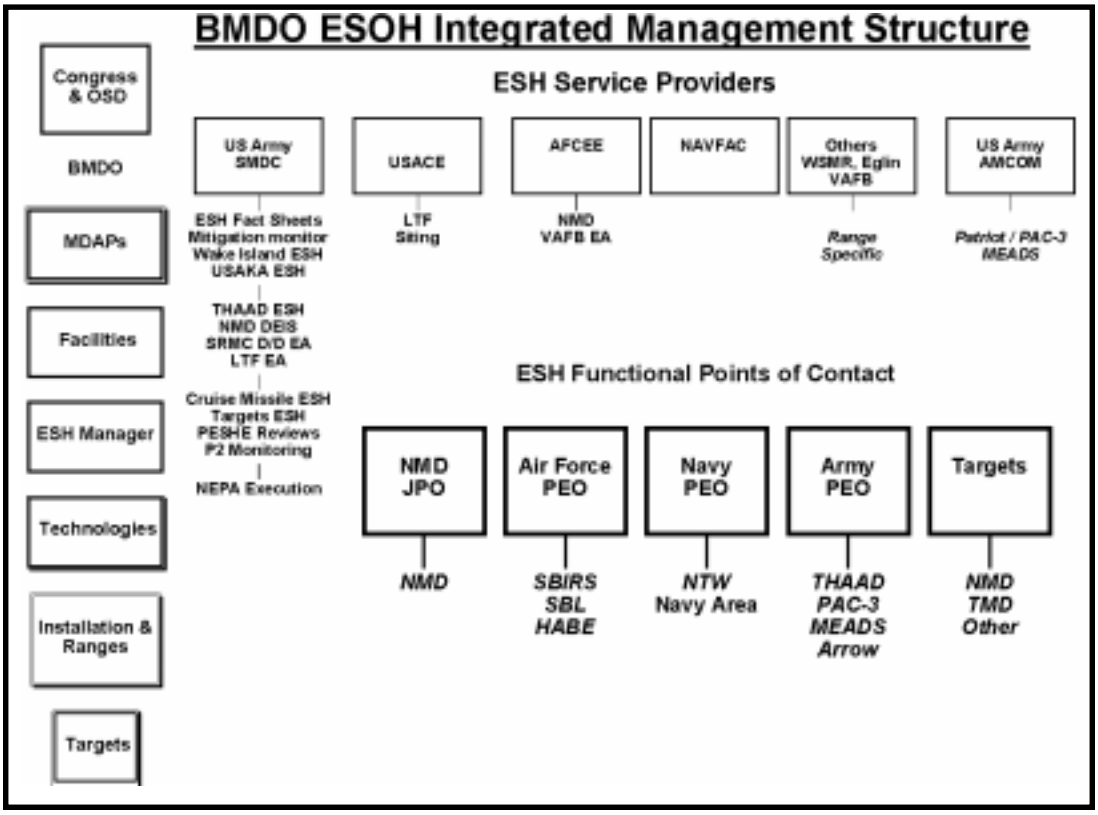
### *BMDO ESOH Management Team*

The BMDO ESOH Management team is led by the BMDO ESOH Manager. The team includes functional experts from the BMDO staff, including the General Council, External Affairs, and Security and Counterintelligence offices.

### *ESOH Functional Points of Contact*

The BMDO ESOH manager is directly linked to the MDAP ESOH Functional POCs who serve as focal points for program ESOH activities and coordinating vital information. The National Missile Defense (NMD) Joint Program Office (JPO) and the Air Force (AF), Navy, and Army Program Executive Offices (PEOs) oversee the ESOH activities for their respective programs.

## ESOH Functional Organization




***ESOH Service Providers***

- U.S. Army Space and Missile Defense Command (USASMDC),
- Army Corps of Engineers (COE),
- Aviation and Missile Command (AMCOM),
- Air Force Center for Environmental Excellence (AFCEE), and
- Navy Facilities Engineering Command (NAVFAC).

These organizations perform technical support activities for the MDAP ESOH Functional POCs. The support generally includes conducting environmental assessments, environmental impact statements, siting studies, compiling environmental, safety and health engineering plans and mitigation management and monitoring.

***Installation Level ESOH Support***

- White Sands Missile Range, MN
- Eglin Air Force Base, FL
- Vandenberg Air Force Base, CA
- Pacific Missile Range Facility, HI
- United States Army Kwajalein Atoll.

ESOH experts at these installations provide the vital link for site-specific ESOH management of BMDO related operations. The BMDO ESOH Manager is functionally connected to these installations through the various service providers, ESOH requirements, MDAP and technology programs.

## ESOH Functional Organization

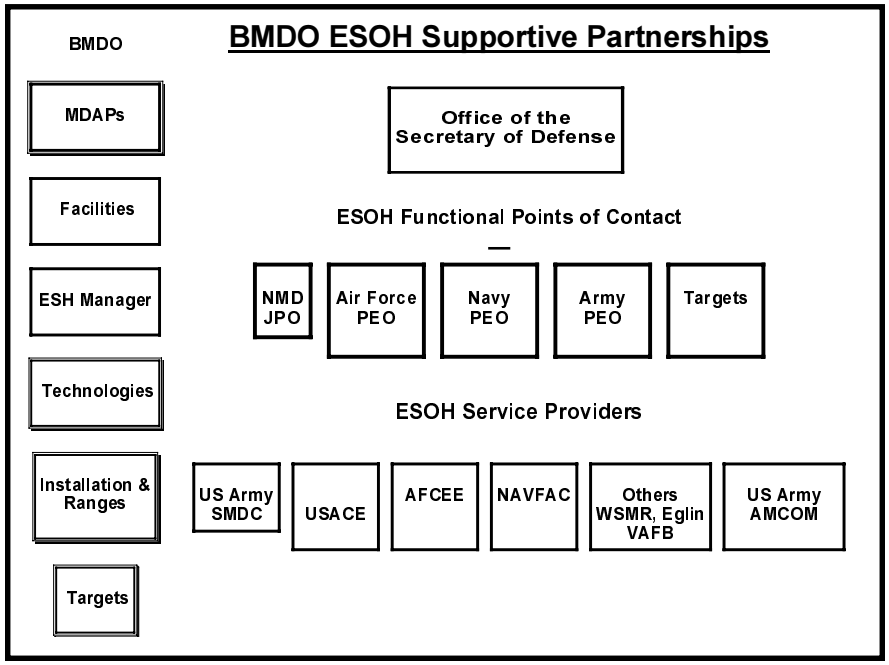
*Improving Ownership*

Senior managers familiar with total quality management understand the concept of ownership. An objective of the BMDO ESOH compliance program is for all employees, contractors and suppliers to be responsible for compliance (i.e. to own the environmental issues and safety and health aspects of their jobs, activities, products and services). The crosscutting acquisition activities and missile system programs of BMDO and its stakeholders have required the development and use of partnerships.

Working through Program Management Agreements (PMAs), the BMDO ESOH team applies customer service, product and quality management principles consistent with International Standards Organization (ISO) 9000 and ISO 14000 environmental management standards. As a result, ESOH management is more proactive, systematic and integrated within BMDO's core values and mission.

Supportive partnerships ( OSD, BMDO, JPO, the Services, and Executing Agents) have all contributed to mutual success.

BMDO ESOH management continues to evolve from compliance focused approach to proactive pollution prevention based strategy. However, the comprehensive ESOH requirements put forth by laws and DoD regulations mandate that each program addresses five basic issues. These are the National Environmental Policy Act, Environmental Compliance, System Safety and Health, Hazardous Materials Management and Pollution Prevention.




## Programmatic Environmental, Safety, and Health Evaluation

The PM's acquisition strategy must include a Programmatic Environmental, Safety, and Health Evaluation (PESHE). The PM must initiate the PESHE at the earliest possible time in support of a program initiation decision (usually Milestone I) and shall maintain an updated evaluation throughout the life cycle of the program. The PESHE describes the PM's strategy for meeting ESOH requirements, establishes responsibilities, and identifies how progress will be tracked. BMDO programs, such as National Missile Defense (NMD), Theater High Altitude Area Defense (THAAD), Patriot Advanced Capability – 3 (PAC-3), and the Navy Theater Ballistic Missile Defense (TBMD) programs have integrated ESOH into their acquisition strategies and update their PESHEs on an as needed basis.

## Program Objectives

*National Environmental Policy Act*

PM's must comply with the National Environmental Policy Act (NEPA), its implementing regulations, and presidential executive orders (EO). The three BMDO mission areas are depicted in Fig.4.

NEPA compliance requires ESOH consideration and documentation of proposed BMDO actions before making a decision to proceed with implementation. Various documents may be required as described in BMDO Directive 6050.

BMDO NEPA documents are developed and addressed by an early scoping of ESOH issues through public participation. This open process gives rise to important new

opportunities for better and more efficient NEPA analyses. Proposed actions and alternatives are publicly identified early in the process and properly studied.

ESOH issues are thoroughly analyzed for significant effects. Analyzing proposed actions and their potential for cumulative and significant effects on the environment in all phases of the missile system acquisition management process is the primary focus of this NEPA planning effort.

NEPA documentation is extremely useful for developing the programmatic environmental safety and health evaluation (PESHE) and master planning efforts. Failure to do the appropriate level of NEPA planning could exposes BMDO programs to serious cost and schedule risks.

***Environmental Compliance***

Environmental regulations are a source of external constraints that must be identified and viable compliant solutions integrated into the acquisition process. This is no easy task since there are approximately fifty thousand pages of federal environmental regulations. Especially important is environmental safety and health integration with the missile systems design and systems engineering processes.

To minimize the cost, schedule, and performance risks that these constantly changing regulations may represent, the PM's ESOH support team must regularly review environmental requirements, and evaluate potential impacts to the missile defense acquisition program. The PM must also evaluate the program's impact on the natural and human environments within the context of BMDO's acquisition mission. This often involves integration with multiple disciplines and the plans of acquisition management, systems engineering, software acquisition management, test and evaluation, manufacturing and production, business cost estimating, financial and contract management.


***System Safety and Health***

The PM must identify and evaluate system safety and health hazards, define risk levels, and establish a program that manages the probability and severity of all Safety and Health risks associated with the design, development, testing, use, maintenance, and disposal of these systems. Safety and health risks should be eliminated, mitigated, or managed consistent with the Occupational Safety and Health Act (OSHA) and Military Standard 882C for weapon systems and facilities within the context of mission critical requirements.

Human safety and health risks include conditions that create any risks of acute or chronic illness, injury, disability, and/or reduced job performance of personnel who produce, test, operate, maintain, or support the system. System safety and health requirements include: industrial hygiene, range safety, ground, launch, transportation, pre and post flight, explosives, hazardous materials, hazard analysis, job safety, radiation and other safety and health issues.

***Hazardous Materials Management***

The PM is required to plan, develop and implement a hazardous material management program to ensure the elimination and reduction of hazardous materials in weapons systems design, systems engineering, operation, maintenance and disposal processes. BMDO contractors are required to follow the National Aeronautical Standard (NAS 411) in developing products, eliminate the use of ozone depleting substances and effectively reduce and manage the EPA 17 Toxic chemicals. The selection, use, and disposal of hazardous materials shall be evaluated and managed to incur the lowest possible cost to protect human health and the environment. The hazardous material management activities should be consistent with BMD program's cost, schedule and performance goals. BMDO funded NMD, THAAD, and PAC-3 programs have

## PROGRAM OBJECTIVES [CONTINUED]

developed Hazardous Material Management Plans that identify and replace hazardous materials where technically and economically feasible.

***Pollution Prevention (P2)***

It is BMDO policy that in designing, manufacturing, testing, operating, maintaining, and disposing of BMD systems, forms of pollution shall be prevented or reduced at the source whenever feasible. Pollution that cannot be eliminated or reduced shall be recycled. Pollution that cannot be eliminated, reduced or recycled shall be treated in an environmentally safe manner. Disposal or other releases to the environment shall be employed only as a last resort and must be conducted in a legal and environmentally safe manner. BMDO PMs must establish a pollution prevention plan to eliminate or minimize environmental impacts and life-cycle costs associated with their programs.

The PM shall identify the following:

- System impacts to the environment,
- Actions needed to prevent or control the impacts,
- Types and amounts of pollution to be released to the environment,
- ESOH risks associated with using new technologies, and
- Systems design and engineering information useful for source reduction,,
- Recycling opportunities.

Several efforts to reduce or eliminate ozone-depleting substances (chlorine) from solid and liquid propellants have been successful. It is likely that these cleaner fuels will be used more extensively in the future.

## CONCLUSION

BMDO is committed to protection of the natural and human environment and to the safety and health of its employees, all Americans and our allies. Figure 6 generally summarizes the mechanics of BMDO's ESOH management actions.

Pollution prevention is our preferred environmental management strategy. To ensure environmental protection, ESOH requirements are being integrated with BMDO missile system acquisition programs such as, TMD, NMD and Technology readiness.

Working through PMAs and other Inter-service agreements, the BMDO ESOH Team applies customer service, product, and management principles that are parallel with ISO 9000 quality and ISO 14000 international environmental management standards. BMDO ESOH management initiatives also track directly with DoDD 5000.1 and DoDD 5000.2 R requirements. As a result, BMDO's ESOH requirements are more integrated to each programs best management practices and contribute largely to the BMDO mission excellence.

Specifically important to each program is creating a PESHE that addresses the five ESOH categories listed previously in this fact sheet. PESHEs ensure that the PMs have an acquisition strategy that considers environmental, safety, health protection and compliance throughout the life cycle of the BMD system. By upgrading and maintaining the PESHE, Program Manager's for BMDO's NMD, TMD, and Technology Readiness programs can maintain compliance, reduce risks and protect cost, schedule and performance goals.



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